

# STREETSCAPE STANDARDS MANUAL



Approved, Director of Public Works

Date

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## Part 1

#### **PURPOSE**

Founded in 1692, the City of Norfolk has population of 241,000 residents and is the cultural, educational, business, and medical center of Hampton Roads, Virginia. The City proudly boasts over 120 unique neighborhoods and a vibrant downtown. The City is experiencing a tremendous revitalization with new residential and commercial development which is drawing tourists and attracting new residents to the city. The City's slogan "Come Home to Norfolk where life is celebrated daily" is truly evident.

Street design is an integral part of creating attractive neighborhoods to entice people to "Come Home to Norfolk". Streetscape features, such as street lights, trees and landscaping, and street furniture can contribute to the unique character of a block or entire neighborhood. Streets should be designed to balance the needs of all users, and streetscape design is critical to this balance. The movement of automotive traffic and transit vehicles, pedestrian and bicycle pathways, areas for public interaction, and areas for placement of street trees and landscaping all need to be considered when deciding standards.



In order to provide guidelines and standards for the City to be used by City staff, developers, contractors, and the Virginia Department of Transportation, the City Charter (Section 54) authorizes the Director of Public Works to promulgate streetscape standards. Working in partnership with other stakeholder agencies, including the Division of Parks & Forestry, the Department of City Planning & Community Development, and the Norfolk Redevelopment & Housing Authority NRHA, the Department of Public Works established the streetscape design manual. The manual provides guidelines and establishes minimum standards for a coordinated and consistent streetscape treatment for roadways throughout the City of Norfolk. This Manual is not intended to supersede City Council approved plans and standards established for specific designated areas which are incorporated herein by reference.

#### **INTRODUCTION**

This Streetscape Manual establishes minimum standards in streetscape construction for the City of Norfolk. The standards are established for a matrix of street types and streetscape districts and establish standard criteria for materials to be used while permitting flexibility for enhanced designs for specific situations.

Street types used in this manual are as follows: (Map 1)

- <u>Arterials</u> consist of highways designed for connecting the major districts of the city and adjoining cities, and for movement between the freeway and collector system. Arterials may secondarily serve the function of providing access to abutting property.
- <u>Collectors</u> As stated in the City's General Plan, collectors consist of highways designed to collect or distribute traffic between arterials and local streets, and to provide access to abutting property.
- <u>Locals</u> consist of highways designed to provide direct access to abutting property.
- <u>Interstates</u> consist of multi-laned, divided highways for high-speed, relatively long-distance travel, providing access only at grade separated intersections.

Streetscape Districts are broken down into twelve separate classifications:

- <u>City Gateways</u> are primary access points where traffic enters the community. (Map 2)
- <u>Neighborhood/Commercial gateways</u> are primary access points where traffic enters into a neighborhood or commercial area, or are central areas where a commuting drive can be developed.
- <u>Designated Boulevards</u> are areas with wide streets and medians dividing the directional traffic lanes. (Map 3)
- <u>Downtown</u> are streets in the downtown area reflected in the general plan. There are separately developed downtown streetscape standards.
- <u>Historic Districts</u> are districts listed in the National Historical registry or locally designated. (Map 4)
- <u>Residential</u> areas designated in the general plan and zoning for neighborhood land usage.
- <u>Commercial Districts</u> are areas with a concentration of commercial activities. (Map 5)
- ◆ Office Park/Industrial are collector and local streets with a concentration of office buildings or industrial offices. (Map 6)
- ♦ <u>Interstate/Interchange</u> are the points where the interstates intersect with local streets.
- <u>City Interstate Gateways</u> are areas where the interstate system enters the community. (Map 7)
- ♦ <u>Neo-Traditional</u> is a multi-use, walkable community with moderate to high residential densities and mixed use core.

#### STREETSCAPE STANDARDS

• Specific Districts are all special districts where there are specifically tailored streetscape standards not covered above.

The standards provided by this manual represent a visual of how the City streetscapes should look and subject to budget constraints are to be applied to any new construction by the City or private developers. (The standards will be applied within the budget constraints at the time of installation (construction or maintenance/replacement).) Also, these standards shall be applied according to the current street classification at the time of construction and not the proposed street classification.

Maintenance and repair material shall be based upon retaining the existing, in place, standards for particular streets. It is not intended that maintenance/repair budgets bear the burden of improvements beyond the existing standards. However, on a selective basis or where there is little or no added cost, maintenance and repair may be used to upgrade streetscapes.

Upon issuance of these standards, it is expected that all current and future construction will abide by the streetscape policy manual within fiscal constraints.

### <u>UTILITY UNDERGROUNDING POLICY AND LANDSCAPING POLICY FOR NEW CONSTRUCTION PROJECTS</u>

- A. Utility Underground Options: Defined as options to improve appearance by removing utility lines. The option or combinations of options used on new construction projects will be determined by the budget targets listed in paragraph B.
  - 1. Move the lines back from the edge of the street
  - 2. Underground Secondary Lines
    - a. When crossing the street (transverse lines)
    - b. At intersections
    - c. Along corridors
  - 3. Underground Primary Lines
    - a. Along the corridor
    - b. At intersections
  - 4. Underground All
  - Project Budget Targets: The following represent guidelines on the percentage
    of road construction project budgets to be devoted to streetscape related items.
    The intention is to typically spend up to the amount listed for streetscape
    items.

<u>Streetscape Undergrounding</u>
Up to 5%

Landscaping
Up to 10%

Street Lighting Up to 5%

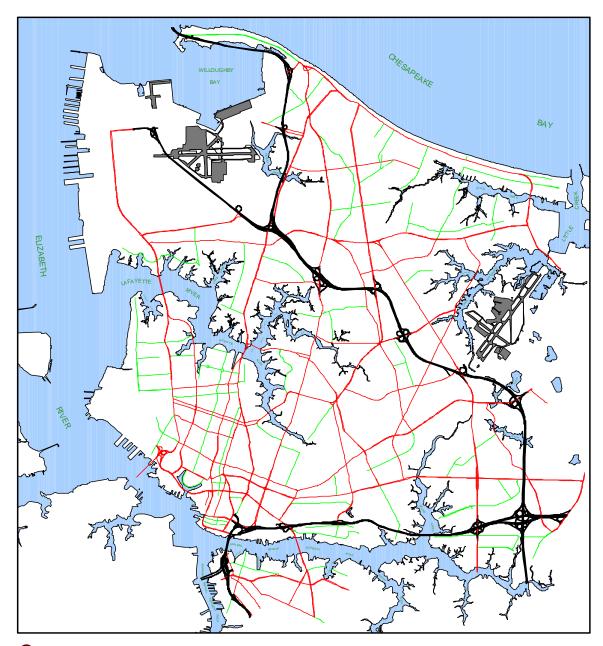
Road Construction Remaining 80% or more

#### STREETSCAPE DISTRICT AND STANDARD TYPES

Streetscape Districts	Arterial	Collector	Local	Interstate
City Gateways	X			
Neighborhood/Commercial Gateways	X	X		
Designated Boulevards	X	X		
Downtown	X	X	X	
Historic District	X	X	X	
Residential	X	X	X	
Commercial Districts	X	X		
Office Park/ Industrial	X	X		
Interstate/ Interchange				X
Interstate/ Gateway				X
Specific Districts	X	X	X	
Neo-Traditional		X	X	

# STREETSCAPE MAPS

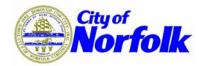
#### **STREET CLASSIFICATION**



### Streets







Map 1

#### **CITY GATEWAYS**

4<sup>th</sup> View Intersection

Shore Drive

North Hampton Boulevard

Virginia Beach Boulevard

Kempsville Road

Military Highway

**Indian River Road** 

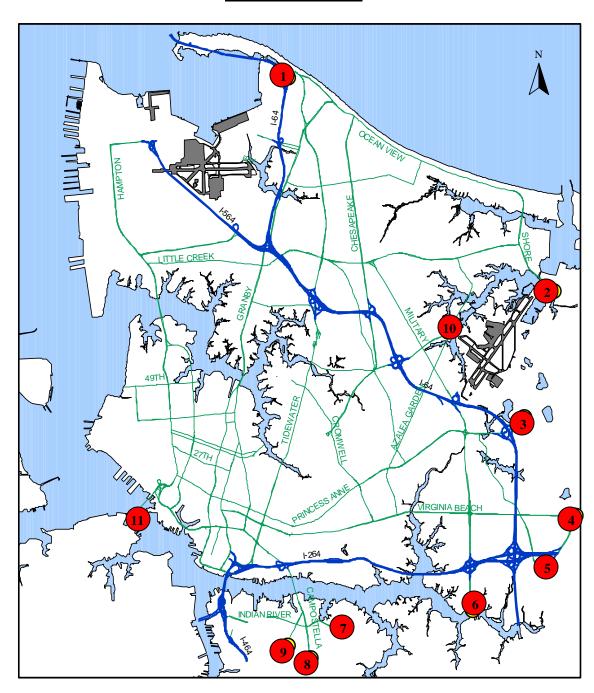
Campostella Road

Wilson Road

Norfolk International Airport

Midtown Tunnel

#### **CITY GATEWAYS**



Map 2



Reference: General Plan of Norfolk



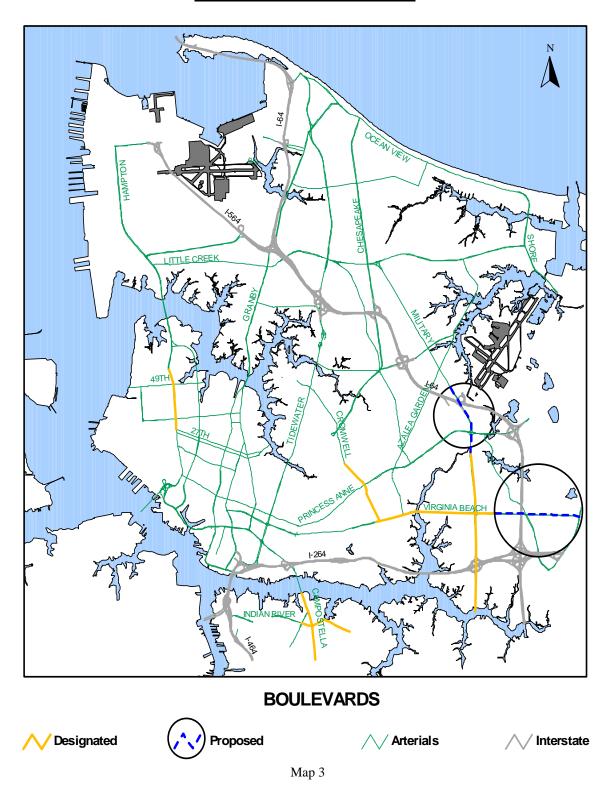
#### Arterial Street Gateways

- 4<sup>th</sup> View Intersection
- Shore Drive
- North Hampton Boulevard 3.
- Virginia Beach Boulevard Kempsville Road 4.
- 5.
- Military Highway Indian River Road
- Campostella Road
- Wilson Road
- 10. Norfolk International Airport
- 11. Midtown Tunnel

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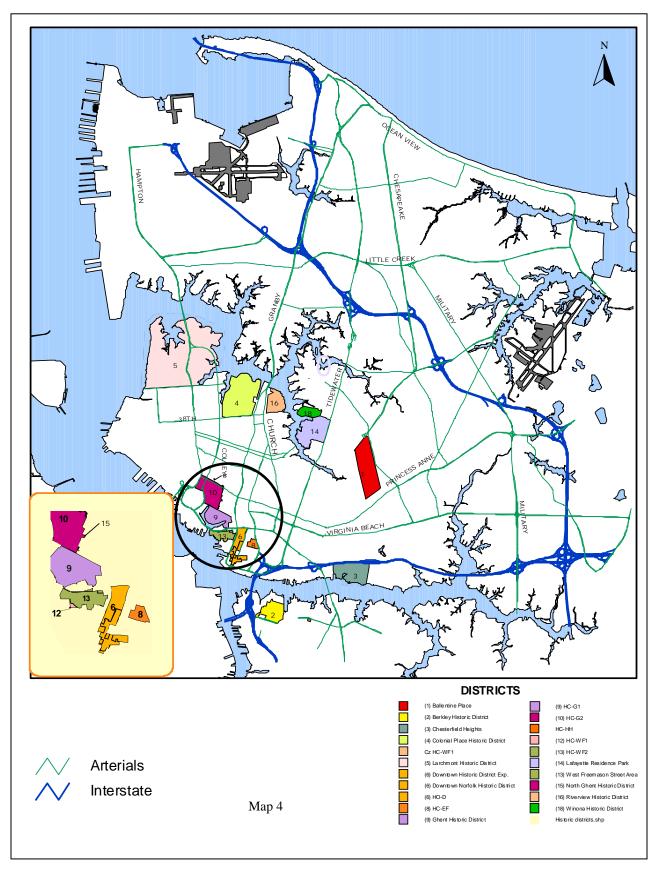
13

#### **DESIGNATED BOULEVARDS**



#### **HISTORIC DISTRICTS**

#### **HISTORIC DISTRICTS**



#### **COMMERCIAL DISTRICTS**

21<sup>st</sup> Street Lakeland-Bromley

35<sup>th</sup> Street Little Creek-East

Ames Business Area Little Creek Plaza-Roosevelt

Banks-Omni Area Medical Tower Area

Central Granby Street Mid-Town Industrial Conservation Area

Colley Village Military Square

Downtown Core District Norfolk Commerce Park

Downtown North District Norfolk Industrial Park

Downtown Plaza Norfolk Square

Five Points Ocean View

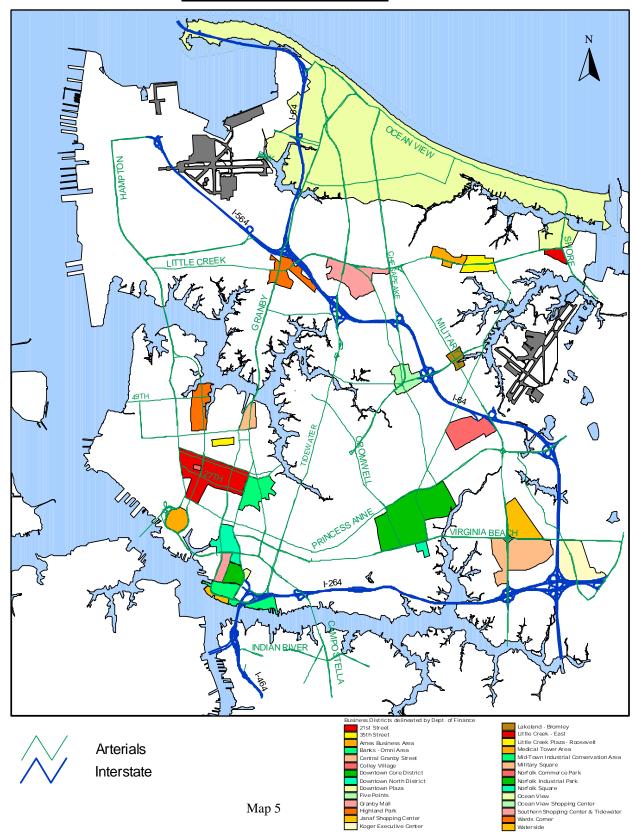
Granby Mall Ocean View Shopping Center

Highland Park Southern Shopping Center and Tidewater

Janaf Shopping Center Wards Corner

Koger Executive Center Waterside

#### **COMMERCIAL DISTRICTS**



#### OFFICE PARK/INDUSTRIAL

Central Business Park

Interstate Corporate Center

Lake Wright

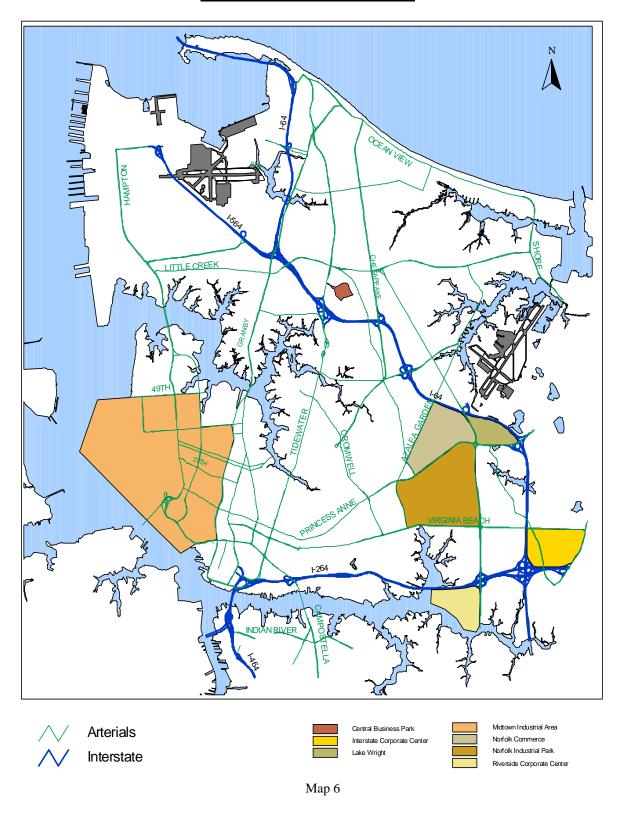
Midtown Industrial Area

Norfolk Commerce

Norfolk Industrial Park

Riverside Corporate Center

#### **OFFICE PARK INDUSTRIAL**



#### **CITY INTERSTATE GATEWAYS**

Hampton Roads Bridge Tunnel

Interstate 264

Interstate 64

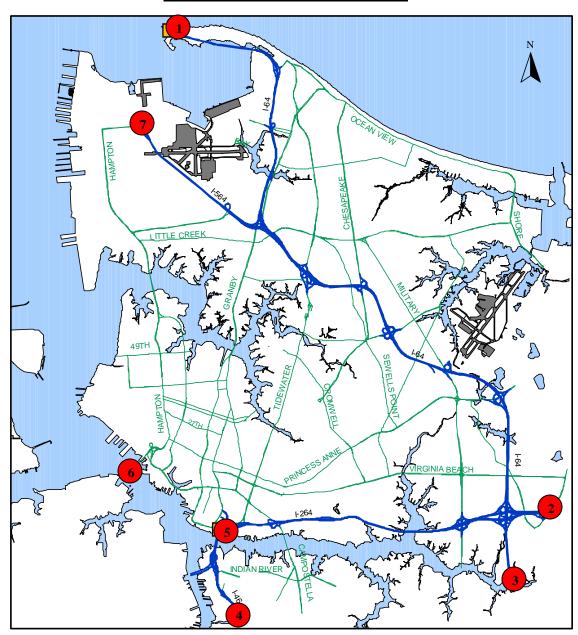
Interstate 464

Downtown Tunnel

Midtown Tunnel

Interstate 564

#### **CITY INTERSTATE GATEWAYS**





Map 7

Reference: General Plan of Norfolk



- 1. Hampton Roads Bridge Tunnel
- 2. Interstate 264
- 3. Interstate 64
- 4. Interstate 464
- 5. Downtown Tunnel
- 6. Midtown Tunnel

7. Interstate 564

# Part 2

# STREETSCAPE STANDARDS

#### **STREET NAME SIGNS**

Streetscape Districts	Arterial	Collector	Local	Interstate
City Gateways	Standard	_		
Neighborhood/Commercial Gateways	Standard	Standard		
Designated Boulevards	Standard	Standard		
Downtown	Standard	Standard	Standard	
Historic District	Standard/Custom	Standard/Custom	Standard/Custom	
Residential	Standard	Standard	Standard	
Commercial Districts	Standard	Standard	Standard	
Office Park/ Industrial	Standard	Standard	Standard	
Interstate/ Interchange				Standard
Interstate/ Gateway				Standard
Specific Districts *	To Be Determined	To Be Determined	To Be Determined	
Neo-Traditional *		MUTCD Minimum Standards	MUTCD Minimum Standards	

Standard: Blue signs (Federal I.D. #1175) with white letters and white border with square metal poles

Size depends on type of applications on arterials, local streets, and collectors:

Corner posts 9" x 30-36" Candelabras 9' x 30-42" Metros 18" x 72-90" \*Department of Public Works will not fund installation or maintenance.

#### **SIGN POSTS**

Streetscape Districts	Arterial	Collector	Local	Interstate
City Gateways	Galvanized /Painted			
Neighborhood/Commercial Gateways	Galvanized /Painted	Galvanized /Painted		
Designated Boulevards	Galvanized	Galvanized		
Downtown	Painted	Painted	Painted	
Historic District	Painted/Galvanized	Painted/Galvanized	Painted/Galvanized	
Residential	Galvanized	Galvanized	Galvanized	
Commercial Districts	Galvanized	Galvanized	Galvanized	
Office Park/ Industrial	Galvanized	Galvanized	Galvanized	
Interstate/ Interchange				Galvanized
Interstate/ Gateway				Galvanized /Painted
Specific Districts	Painted/Galvanized	Painted/Galvanized	Painted/Galvanized	
Neo-Traditional		Galvanized /Painted	Galvanized /Painted	

Signs include: Stop, Yield, One Way, Speed Limit, Parking, etc.

Painted: Norfolk green (Federal I.D. #14062 Fed Standard 595 B) with square metal posts

#### TRAFFIC SIGNAL POLES/CABINETS/SIGNAL HEADS

Streetscape Districts	Arterial	Collector	Local	Interstate
City Gateways	Painted			
Neighborhood/Commercial Gateways	Painted	Painted		
Designated Boulevards	Galvanized	Galvanized		
Downtown	Painted	Painted	Painted	
Historic District	Painted/ Galvanized	Painted/ Galvanized	Painted/ Galvanized	
Residential	Galvanized	Galvanized	Galvanized	
Commercial Districts	Galvanized	Galvanized	Galvanized	
Office Park/ Industrial	Galvanized	Galvanized	Galvanized	
Interstate/ Interchange				Galvanized
Interstate/ Gateway				Painted
Specific Districts	Painted/ Galvanized	Painted/ Galvanized	Painted/ Galvanized	
Neo-Traditional		Painted/ Galvanized	Painted/ Galvanized	

Painted: Norfolk green poles & cabinets with black signal heads

Galvanized: Natural aluminum or anodized aluminum

All new and relocated traffic signal control cabinets should be painted in green if they are to be landscaped.

#### TRAFFIC SIGNAL POLE TYPES

Streetscape Districts	Arterial	Collector	Local	Interstate
City Gateways	Mast Arm Regular Base			
Neighborhood/Commercial Gateways	Mast Arm Regular Base	Mast Arm Regular Base		
Designated Boulevards	Mast Arm Regular Base	Mast Arm Regular Base		
Downtown	Mast Arm Decorative Base	Mast Arm Decorative Base	Mast Arm Decorative Base	
Historic District	Mast Arm Regular Base	Mast Arm Regular Base	Mast Arm Regular Base	
Residential	Span Wire Regular Base	Span Wire Regular Base	Span Wire Regular Base	
Commercial Districts	Span Wire Regular Base	Span Wire Regular Base	Span Wire Regular Base	
Office Park/ Industrial	Span Wire Regular Base	Span Wire Regular Base	Span Wire Regular Base	
Interstate/ Interchange				Mast Arm Regular Base
Interstate/ Gateway				Mast Arm Regular Base
Specific Districts	Mast Arm Regular Base	Mast Arm Regular Base	Mast Arm Regular Base	
Neo-Traditional		Mast Arm Regular Base	Mast Arm Regular Base	

Decorative Base: Per downtown Norfolk design guidelines Regular Base: Concrete base or pole into ground without a base

#### **STREET LIGHT POLES**

Streetscape Districts	Arterial	Collector	Local	Interstate
City Gateways	ASFC			
Neighborhood/Commercial Gateways	ASFC	AFC		
Designated Boulevards	AFC	AFC		
Downtown	Decorative/Concrete	Decorative/Concrete	Decorative/Concrete	
Historic District	Decorative/Wood	Decorative/Wood	Decorative/Wood	
Residential	Wood/ AFC	Wood/ AFC	Wood/ AFC	
Commercial Districts	Wood/ASFC	AFC	Wood/ AFC	
Office Park/ Industrial	AFC	AFC	Wood/ AFC	
Interstate/ Interchange				AFC
Interstate/ Gateway				AFC
Specific Districts	To Be Determined	To Be Determined	To Be Determined	
Neo-Traditional			*	

ASFC: Aluminum, Steel, Fiberglass, or Concrete

Decorative: Acorn type pole

Color: Black (only where designated) Norfolk Green (Federal I.D. #14062 Fed Standard

595 B) Silver (Galvanized) or concrete

Pole height standard: 14 feet but 10 feet may be considered an exception.

\*Neo-Traditional: Direct buried smooth tapered fiberglass (pedestrian style black, overhead style grey).

#### **STREET LIGHT FIXTURES**

Streetscape Districts	Arterial	Collector	Local	Interstate
City Gateways	Encl. Flat Lens			
Neighborhood/Commercial Gateways	Encl. Flat Lens	Encl. Flat Lens		
Designated Boulevards	Encl. Flat Lens	Encl. Flat Lens		
Downtown	Encl. Flat Lens	Encl. Flat Lens	Acorn	
Historic District	Traditionaire/Encl. Flat Lens	Traditionaire/Encl. Flat Lens	Traditionaire/Encl. Flat Lens	
Residential	Encl. Flat Lens	Encl. Flat Lens	Traditionaire/Encl. Flat Lens	
Commercial Districts	Encl. Flat Lens	Encl. Flat Lens	Traditionaire/Encl. Flat Lens	
Office Park/ Industrial	Encl. Flat Lens	Encl. Flat Lens	Traditionaire/Encl. Flat Lens	
Interstate/ Interchange				Interstate
Interstate/ Gateway				Interstate
Specific Districts	* See below	* See below	* See below	
Neo-Traditional			Traditionaire/Encl. Flat Lens	

See page 31.

\* Acorn/Traditionaire unless installation and maintenance is by others

#### **STREET LIGHT FIXTURES**





INTERSTATE







**ULTRA FLAT** 



**ULTRA DROP** 



**ACORN** 

**TRADITIONAIRE** 

#### **UTILITY FIXTURES**

Utility fixtures include miscellaneous cabinets, fixtures, transformer cabinets, valve boxes, etc. for any utility including electrical, telecommunications, water, and wastewater.

Streetscape Districts	Arterial	Collector	Local	Interstate
City Gateways	Decorative			
Neighborhood/Commercial Gateways	Decorative	Decorative		
Designated Boulevards	Standard	Standard		
Downtown	Decorative— Painted	Decorative— Painted	Decorative— Painted	
Historic District	Standard	Standard	Standard	
Residential	Standard	Standard	Standard	
Commercial Districts	Standard	Standard		
Office Park/ Industrial	Standard	Standard		
Interstate/ Interchange				Standard
Interstate/ Gateway				Decorative
Specific Districts	To Be Determined	To Be Determined	To Be Determined	
Neo-Traditional			Decorative	

Decorative: Integrated with landscaping to soften appearance in some cases specification of color is required.

\*The placement of utility fixtures will be reviewed in site plan review to minimize impact on streetscape appearance within functional constraint.

#### **GUARD RAILS**

Streetscape Districts	Arterial	Collector	Local	Interstate
City Gateways	Galvanized/ Treated			
Neighborhood/Commercial Gateways	Galvanized/ Treated	Galvanized/ Treated		
Designated Boulevards	Galvanized	Galvanized		
Downtown	Galvanized/ Treated	Galvanized/ Treated	Galvanized/ Treated	
Historic District	Galvanized/ Treated	Galvanized/ Treated	Galvanized/ Treated	
Residential	Galvanized	Galvanized	Galvanized	
Commercial Districts	Galvanized	Galvanized		
Office Park/ Industrial	Galvanized	Galvanized		
Interstate/ Interchange				Galvanized
Interstate/ Gateway				Galvanized/ Treated
Specific Districts	To Be Determined	To Be Determined	To Be Determined	
Neo-Traditional			Galvanized	

Treated: Weathering Steel (A606) Guardrail; or Color-Federal Brown (Federal I.D. #20040); or Color-Norfolk Green (Federal I.D. #14062 Fed Standard 595 B)

#### **PAVEMENT TYPES**

Streetscape Districts	Arterial	Collector	Local	Interstate
City Gateways	Asphalt/ Concrete			
Neighborhood/Commercial Gateways	Asphalt/ Concrete	Asphalt		
Designated Boulevards	Asphalt/ Concrete	Asphalt		
Downtown	Asphalt/ Concrete	Asphalt	Asphalt	
Historic District	Asphalt/ Concrete	Asphalt/ Custom	Asphalt/ Custom	
Residential	Asphalt/ Concrete	Asphalt	Asphalt	
Commercial Districts	Asphalt/ Concrete	Asphalt	Asphalt	
Office Park/ Industrial	Asphalt/ Concrete	Asphalt	Asphalt	
Interstate/ Interchange				Asphalt/ Concrete
Interstate/ Gateway				Asphalt/ Concrete
Specific Districts	Asphalt/ Concrete	Asphalt/ Custom	Asphalt/ Custom	
Neo-Traditional		Asphalt/ Concrete	Asphalt/ Concrete	

Asphalt: Bituminous Concrete Concrete: Portland Cement Concrete Custom: Special Street Surface

#### **CURB & GUTTERS**

Streetscape Districts	Arterial	Collector	Local	Interstate
City Gateways	Norfolk/ VDOT			
Neighborhood/Commercial Gateways	Norfolk/ VDOT	Norfolk/ VDOT		
Designated Boulevards	Norfolk/ VDOT	Norfolk/ VDOT		
Downtown	Norfolk/ VDOT	VDOT/ SP	VDOT/ SP	
Historic District	Norfolk/ VDOT	VDOT/ SP	VDOT/ SP	
Residential	Norfolk/ VDOT	Norfolk/ VDOT	VDOT/ SP	
Commercial Districts	Norfolk/ VDOT	Norfolk/ VDOT		
Office Park/ Industrial	Norfolk/ VDOT	Norfolk/ VDOT		
Interstate/ Interchange				SP
Interstate/ Gateway				SP
Specific Districts	Norfolk/ VDOT	VDOT/ SP	VDOT/ SP	
Neo-Traditional		VDOT/ SP	VDOT/ SP	

HS-202/Norfolk Standard 7" Curb CG-6 VDOT Standard 6" Curb (To match existing) SP Special Curb Section

#### **SIDEWALK**

Streetscape Districts	Arterial	Collector	Local	Interstate
City Gateways	Concrete 5' Minimum			
Neighborhood/Commercial Gateways	Concrete 5' Minimum	Concrete 5' Minimum		
Designated Boulevards	Concrete 5' Minimum	Concrete 5' Minimum		
Downtown*	Concrete 5'Minimum/ Brick Pavers	Concrete 5' Minimum/ Brick Pavers	Concrete 5' Minimum/ Brick Pavers	
Historic District	Concrete/ Brick Pavers	Concrete/ Brick Pavers	Concrete/ Brick Pavers	
Residential	Concrete 5' Minimum	Concrete 5' Minimum	Concrete 5' Minimum	
Commercial Districts	Concrete 5' Minimum	Concrete 5' Minimum		
Office Park/ Industrial	Concrete 5' Minimum	Concrete 5' Minimum		
Interstate/ Interchange				N/A
Interstate/ Gateway				N/A
Specific Districts	To Be Determined	To Be Determined	To Be Determined	
Neo-Traditional		Concrete 5' Minimum	Concrete 5' Minimum	

ADA ramps to be installed in all new construction and when corner curb sections are replaced.

#### **CROSSWALKS**

Streetscape Districts	Arterial	Collector	Local	Interstate
City Gateways	Painted			
Neighborhood/Commercial Gateways	Painted	Painted		
Designated Boulevards	Brick	Brick		
Downtown	Custom	Custom	Brick/ Custom	
Historic District	Brick	Brick	Brick/ Custom	
Residential	Painted	Painted	Painted	
Commercial Districts	Painted	Painted		
Office Park/ Industrial	Painted	Painted		
Interstate/ Interchange				Painted
Interstate/ Gateway				Painted
Specific Districts	Brick/ Custom	Brick/ Custom	Brick/ Custom	
Neo-Traditional			TBD	

Custom: Brick Pavers, Painted Lines, Stamped Asphalt and Stencil Coat

#### **BIKE LANES**

The Department of Public Works recognizes bike lanes as a tool to incorporate bicycling into the transportation system. The City of Norfolk intends to accommodate, encourage, and promote bicycling throughout the City. The Department will draw from a blend of existing and future bicycle facilities and programs to ensure a successful bicycle network. When considering bike lanes, the following elements should be considered:

- existing bicycle facilities and roadway network
- I planned bicycle and roadway improvements
- significant attractions and destination points
- routes and/or locations of proposed bicycle facilities, including ancillary facilities such as bike storage and racks
- indication of preferred facility type, such as wide outside lane, bike lane, and shared use path

#### **LANDSCAPING**

Landscaping is considered an integral, required element of streetscape design. Because of the great variety of situations, these standards provide basic guidelines. The actual growing space available for tree(s) and other suitable landscaping, and traffic safety factors will govern the species selection and design of landscaping.

All plant species proposed for streetscape use must be approved by the Division of Parks & Forestry. Listings of approved tree species and minimum grow space standards maintained by the Division of Parks & Forestry for existing and new street infrastructure, respectively, are as follows.

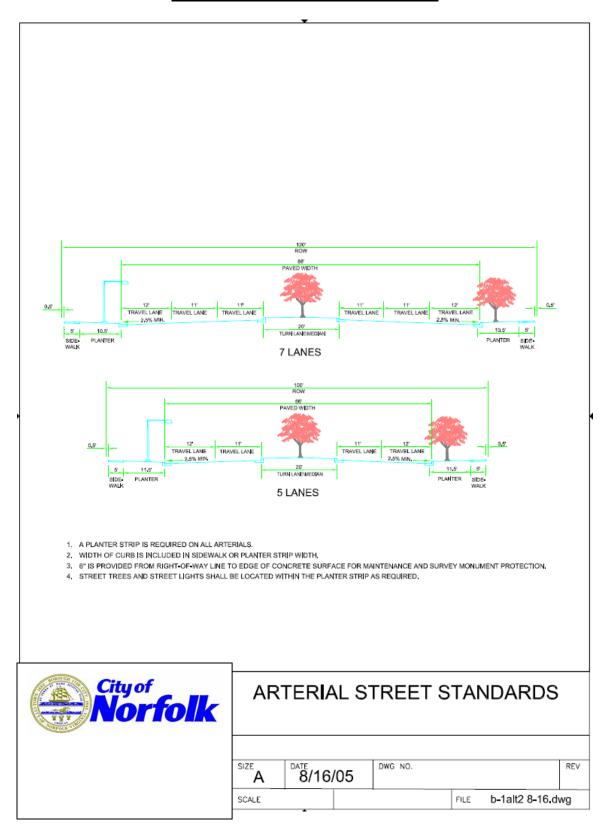
#### **TREES**

- A. Provisions for Type 1 large shade trees. Shrubs, groundcovers and flowers generally planted in an architectural theme. Medians should provide for a minimum 800 square feet of growing space per tree suggesting a minimum 16 foot wide median and trees placed approximately 50-foot on center.
- B. Provisions for Type 2 medium shade trees. Shrubs and groundcovers are generally anticipated in an architectural theme. Medians should provide for a minimum 450 square feet growing space per tree suggesting a minimum 12 foot wide medians and trees placed approximately thirty-five foot on center.
- C. Provisions for Type 3 small ornamental trees. Medians and tree lawns should provide for a minimum of 240 square feet of growing space per tree suggesting a minimum 8 foot wide median and trees placed approximately 30-foot on center.
- D. Where tree lawns and medians are less than 4 feet and 8 feet wide, respectively, no tree planting is permitted within the right-of-way. Shrubs and groundcovers may be given special consideration where appropriate.
- E. Provisions are made to plant trees in commercial areas where concrete sidewalks extend from the edge of street to the property line. Linear soil panels as illustrated in the Downtown Norfolk Streetscape Handbook shall be provided. In special circumstances trees may be planted in open planters no smaller than 7.5'x15' in dimension. The use of large Type I shade trees in open planters requires an enlarged tree pit and use of structural soil meeting University of Cornell Department of Horticulture specifications and installation standards, and approval by the Division of Parks & Forestry. Shrubs are generally not permitted but tree pit openings may contain groundcovers, flowers or mulch, as appropriate.
- F. Areas of forest, wetlands and wild flower meadows with mowed edge are standard in an integrated design as best fits existing and easily modified solid and other conditions. Landscaping is designed to "narrow" the highway.

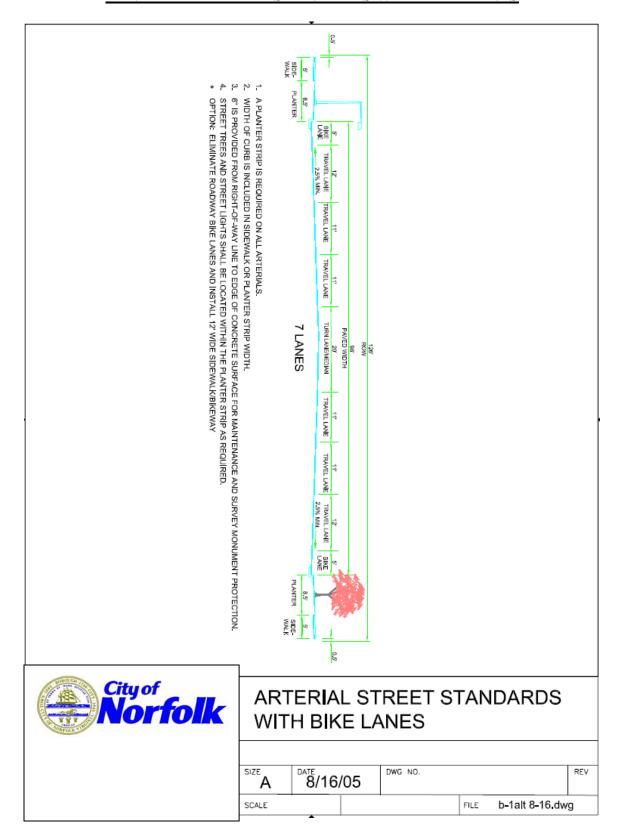
### **STREET CROSS-SECTIONS**

All the street cross-sections in this chapter are for street design guidance only. All new streets must conform to the standards outlined in the current VDOT Subdivision Standards. These standards are available on the Virginia Department of Transportation website (www.virginiadot.org/projects/resources/2005SSR.pdf).

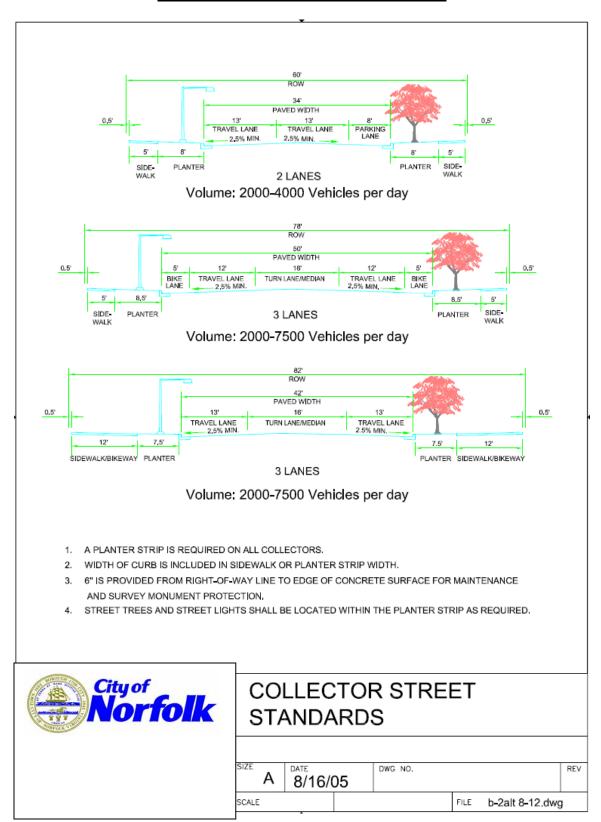
#### MINIMAL ARTERIAL STANDARDS



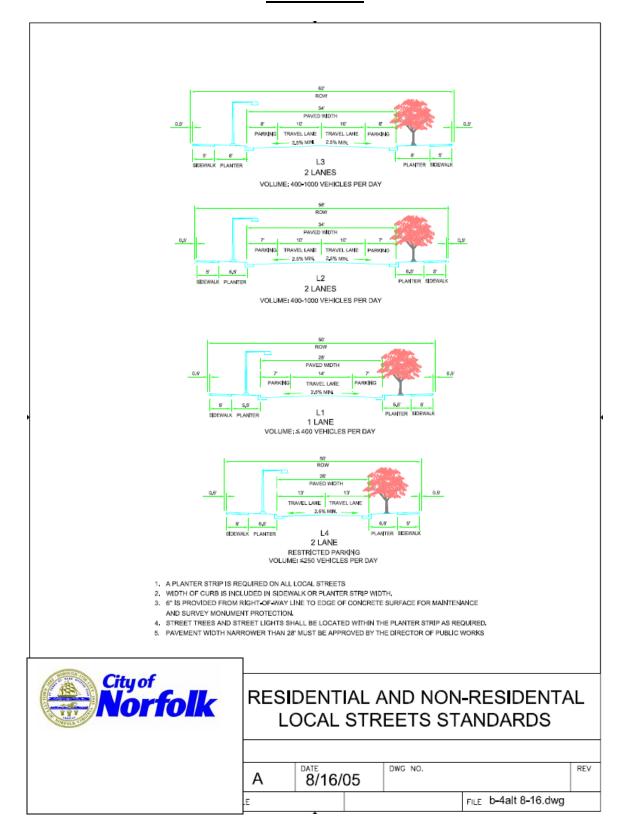
#### MINIMAL ARTERIAL STANDARDS WITH BIKELANES



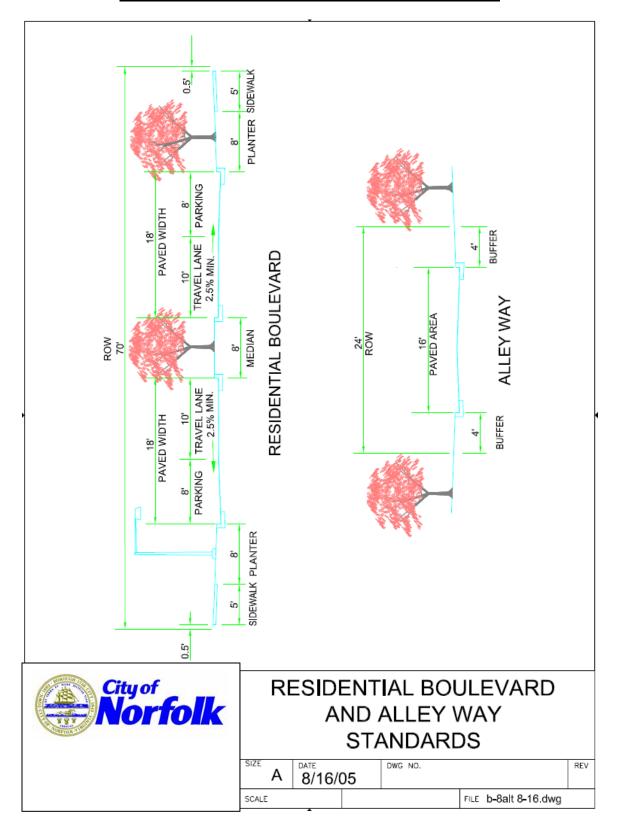
#### MINIMUM COLLECTOR STANDARDS



# $\frac{\textbf{MINIMUM RESIDENTIAL AND NON-RESIDENTIAL LOCAL STREET}}{\textbf{STANDARDS}}$

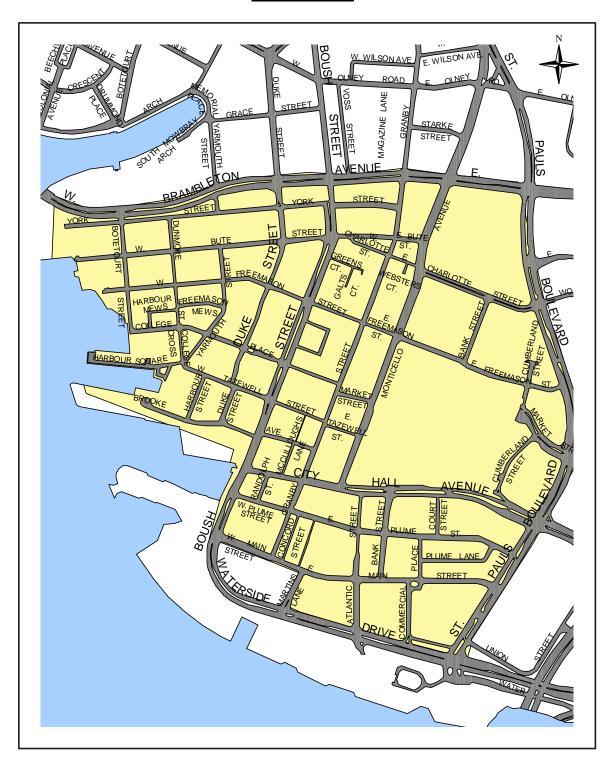


#### MINIMUM ROUTE AND ALLEYWAY STANDARDS



# **Specific Districts**

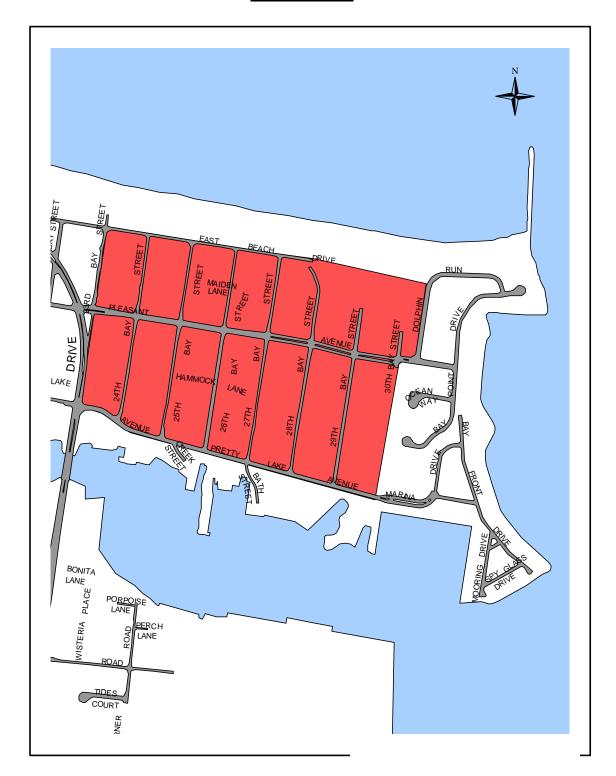
#### **DOWNTOWN**



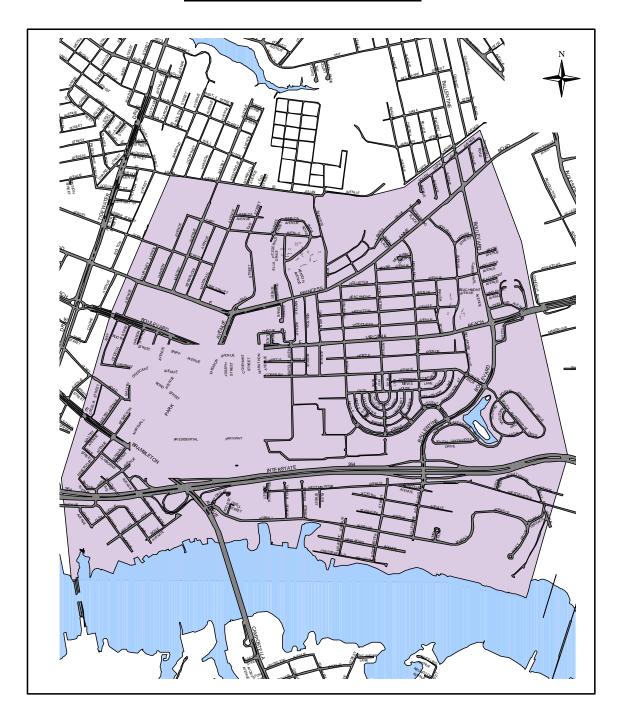
#### **GHENT- 21<sup>ST</sup>, COLLEY AVENUE**



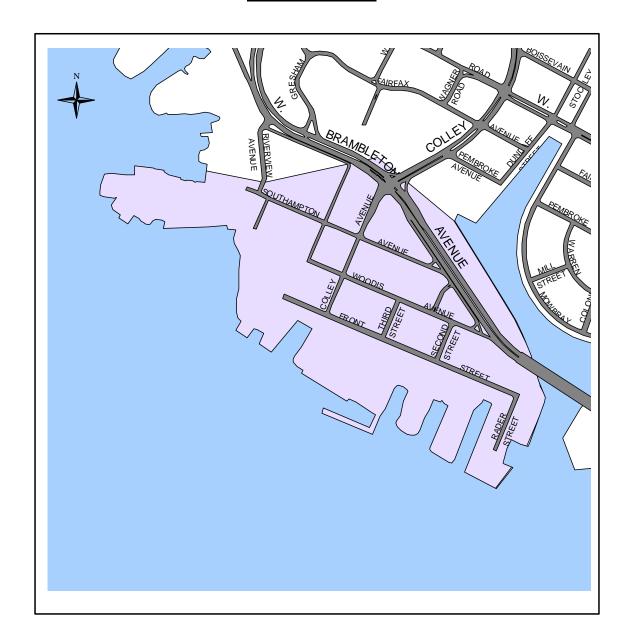
#### **EAST BEACH**



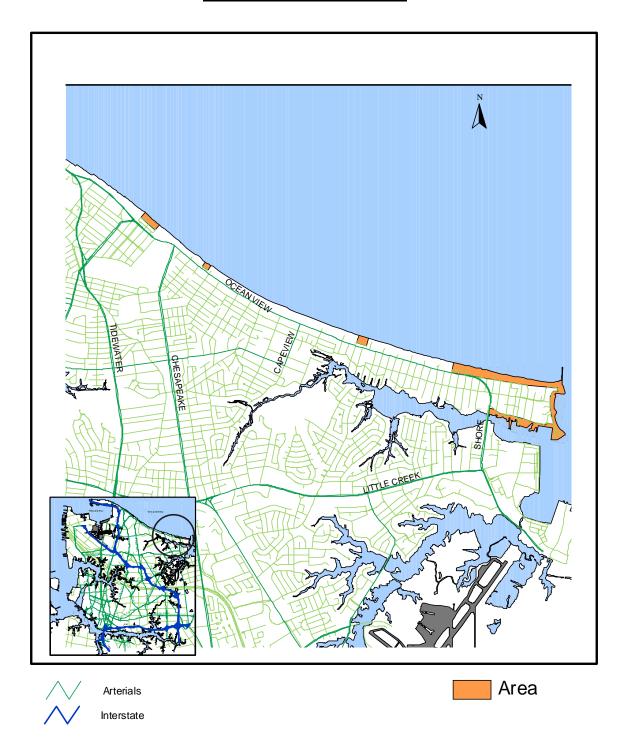
#### **BROAD CREEK RENAISSANCE**



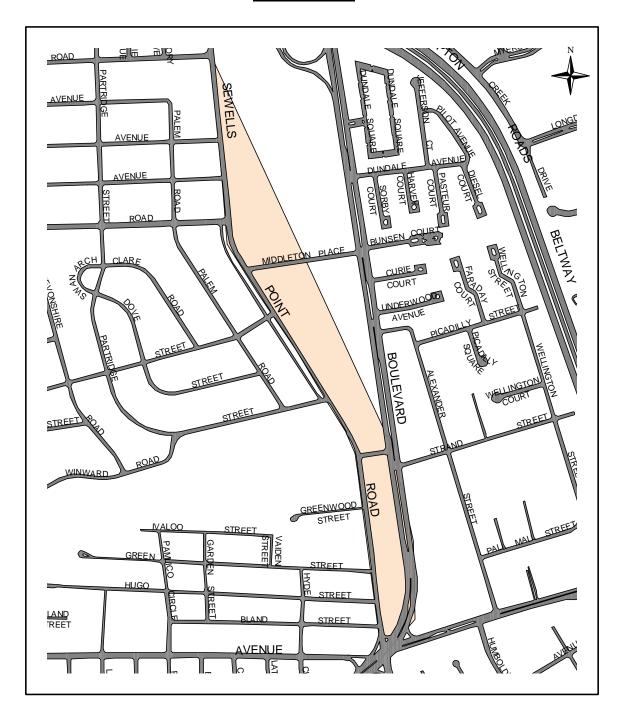
#### FORT NORFOLK



#### **BAYFRONT RESIDENTIAL**



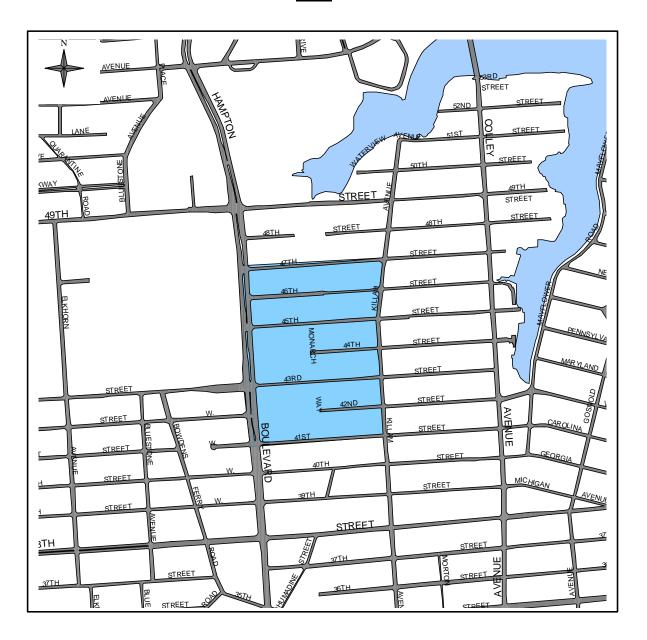
#### **FIVE POINTS**



#### **FAIRMONT PARK**

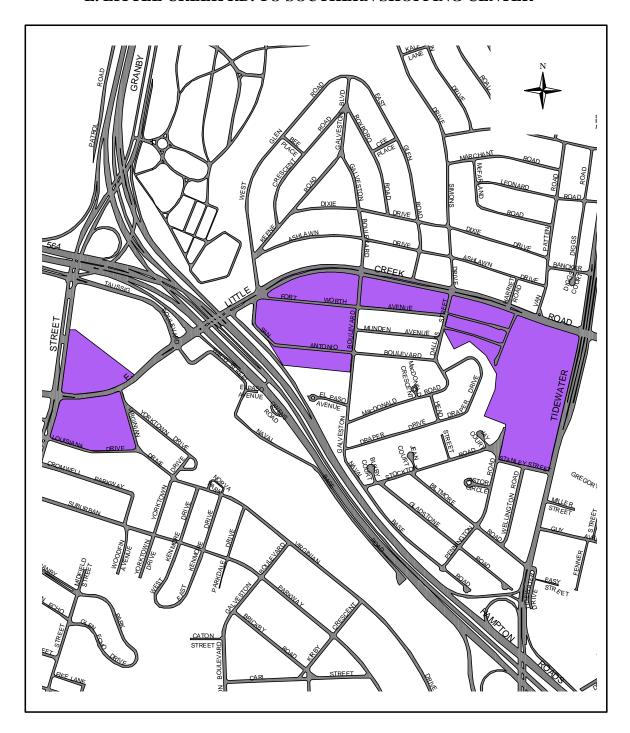


#### <u>odu</u>



#### WARDS CORNER (A)

# GREATER WARDS CORNER SHOPPING CENTERS AND EXTENDED AREAS E. LITTLE CREEK RD. TO SOUTHERN SHOPPING CENTER



#### WARDS CORNER (B)

#### GREATER WARDS CORNER TITUSTOWN RETAIL DISTRICT



# **Appendix**

# APPENDIX A LANDSCAPE RESTRICTIONS

#### **Guidelines:**

- 1. Intersection Landscape Restrictions Sight Triangle Guidelines
  - A) A sight triangle is that area located at the intersection of two public streets or a public street and private driveway through which an unobstructed view of approaching traffic is necessary for motorists. Except as permitted in this policy, no landscaping or vegetation, or fence, structure, or object shall be included in a sight triangle, nor shall any such landscaping or object be planted, erected or maintained within a sight triangle. A sight triangle shall be defined by the table below:

The distance "D" shall measure twenty (20) feet and fifteen (15) feet from the edge of the nearest travel lane for a public street and private driveway, respectively. The distance "L" shall be measured from the centerline of the minor approach to a point at the edge of the nearest travel lane. The distance "R" shall be measured from the centerline of the minor street to a point on the centerline of the major street approach.

(Figure A.1)

Figure showing "D" "L" "R" will appear here.

# <u>Table 1</u> Minimum Required Sight Distances for Different Posted Speed Limits

Posted Speed Limits A	Minimum Sight Distance (L and R)
25 mph	200 ft
30 mph	250 ft
35 mph	325 ft
40 mph	400 ft
45 mph	475 ft
50 mph	550 ft
55 mph	650 ft

A) Posted speed limit on the major

approach. Except at a signalized intersection, the speed limit of the approach from which the sight distance is being measured is ignored.

Sight triangles shall be measured from the minor leg of the intersection of two public streets where the minor approach shall be defined as that approach whose right-of-way is controlled by a stop sign and whose major approach is uncontrolled. At a signalized intersection of two public streets, sight triangles shall be measured for all approaches. For an intersection of a public street and private driveway, the sight distance is only measured from the private driveway.

- B) No landscaping object or plant material, except those meeting the requirements set forth below, shall be allowed within the sight triangle at an elevation greater than twenty-four (24) inches above the crown of pavement on the adjacent roadway.
  - 1. Trees used in the sight triangle may exceed twenty-four (24) inches in height provided they have an acceptable minimum branching clearance of seven (7) feet from the ground to the first branch. Trees with a naturally high branching pattern are preferred, but trees with low branching patterns may be used if pruned to eliminate lower branches. Trees with normally low branching patterns that would be adversely affected by heavy pruning shall be unacceptable.
  - 2. Trees that normally develop a mature trunk with a diameter exceeding twelve (12) inches shall not be acceptable. A maximum trunk diameter of eight (8) inches shall be preferable. The estimated mature trunk size of the tree shall be considered not the trunk size at the time of installation. Notwithstanding the foregoing, existing trees in the sight triangle with a trunk diameter greater than twelve (12) inches may remain unless the City Transportation Engineer, or the Engineer's designee, determines otherwise.
  - 3. When multiple trees are planted within the sight triangle, they shall be planted in staggered positions to avoid a "picket fence" effect where visibility is reduced by a solid row of tree trunks. Multiple trees located in the sight triangle shall be placed no closer than twenty (20) feet on-center from one another.
  - 4. Notwithstanding the table and illustration provided in this section, the City Transportation Engineer or the Engineer's designee may recommend variances of this policy to the Director of Public

Works, who shall have the authority to grant variances upon application by the owner. Any variance for landscaping shall take into account roadway conditions as they relate to traffic control devices, alignments, geometrics, or other unique circumstances that are supported by generally accepted engineering practices or principles, or actual on site studies.

- 5. No landscape plan shall be approved if the landscaping proposed for the intersection of a public street and a vehicular use area would create an unsafe obstruction in the opinion of the Superintendent of Parks & Forestry or designee or the City Transportation Engineer or designee. No landscaping or vegetation, or fence, structure, or object, shall be planted, erected, or maintained by an owner at the intersection of a public street and a vehicular use area if it creates a safety hazard by obstructing the view of a motorist.
- 6. Notwithstanding Table 1 and illustration Figure 5, the City Transportation Engineer may recommend variances to the Director of Public Works. Any variance shall take into account roadway conditions appreciably varying from the roadways functional classification, as relates to speed, traffic control devices, alignment, geometrics or other unique circumstances that are supported by generally accepted engineering practices, or principles, or actual on site studies.

#### 2. Median Landscape Restrictions Sight Triangle Guidelines

A) Street medians are divider islands, which are located in the middle of major streets or highways. The width of a median typically ranges from 10 feet to 22 feet, depending on the width of the street. Together with the design of reverse frontage, the street or highway can become a special landscape feature for the city.

#### B) Tree Planting:

- 1. Trees are prohibited in a left turn-pocket areas;
- 2. Tree plantings in median areas are required to conform with the sight distance guidelines at intersection and median openings;
- 3. Plantings of the first tree must maintain a minimum setback distance of 20 feet back from the beginning of the turn-pocket transition;
- 4. Large tree varieties shall be planted at a minimum of 50 feet spacing;
- 5. There are no tree trunk caliper restrictions on larger trees at maturity;

- 6. Smaller tree varieties with a 4-inch caliper size at maturity are permitted throughout the medians and shall conform with the site distance guidelines at intersections and median openings;
- 7. Minimum tree clearance of 7 feet from face of curb should be maintained on streets with 40 mph speed limits or greater;
- 8. Minimum tree clearance of 4 feet from face of curb should be maintained on streets with less than 40 mph speed limits;

#### C) Shrub Planting:

- 1. Shrubs planted in the front two-thirds (2/3) of a median nose shall not exceed 18 inches in height (from road surface);
- 2. Shrubs planted in the back one-third (1/3) of a median nose shall not exceed 24 inches in height (from road surface).

# APPENDIX B SITE VIEW GUIDELINES

The Limited Use Area, (Figure B.1), can be established within the sight triangle and is determined by the graphical method using the appropriate distances given in the table on Figure B.1. It shall be used for the purpose of prohibiting or clearing obstructions in order to maintain adequate sight distance at intersections

Points A and A' are the locations of a driver's line of sight while in a vehicle at an intersection 15 feet back from the projection of the curb line. The distance Y' is the distance measured from the centerline of the road to the far right through traffic lane.

The distance S represents the corner sight distance measured along the centerline of the road.

Points C and C' are the locations (centerline of the travel lanes) for the driver of the approaching vehicle that provides the driver on the crossroad with 7 1/2 seconds of gap. The distance X is the distance measured from the centerline of the road to the centerline of the far right through traffic lane. The distance X' is the distance measured from the centerline of the road to the center of the travel lane nearest the centerline of the road.

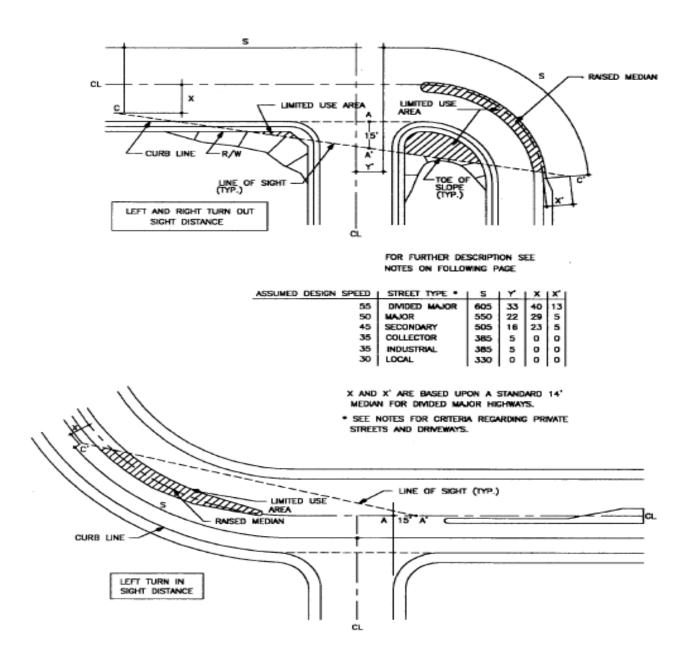
The Line of Sight line shall be shown at intersections on all landscaping plans. In cases where an intersection is located on a vertical curve, a profile of the sight line may be required.

No trees shall be used in the Limited Use Area unless approved by the City Transportation Engineer; Walls or any obstructions that could restrict the view within the Limited Use Area shall not be permitted.

The toe of the slope shall not encroach into the Limited Use Area.

The Limited Use Area shall be as near level as possible, yet maintain proper drainage.

Plants and shrubs shall be of the type that will grow no higher than 1 foot above the curb level within the Limited Use Areas. Plants and shrubs may have to be lower on crest vertical curves.



LIMITED USE AREAS (Figure B.1)

## APPENDIX C APPROVED STREET TREES

### CITY OF NORFOLK

#### **DIVISION OF PARKS & URBAN FORESTRY**

# APPROVED SPECIES, CULTIVARS AND VARITIES STREET TREES

Class I – Species suitable for parkways five foot wide or greater with no overhead obstructions within a thirty-five foot radius of the planting location (i.e. utility conductors, crowns of adjacent trees, building awnings, etc.); large shade trees growing more than 50 feet in height at maturity.

#### A. Deciduous Species

Acer platanoides - Norway Maple, approved cultivars only)

'Summershade'

'Emerald Queen'

Betula nigra - River Birch, approved cultivars only 'Heritage'

*Celtis laevigata* - Sugar Hackberry 'Magnifica'

*Ginkgo biloba* – Ginkgo, Certified <u>male</u> cultivars only as approved by Parks & Urban Forestry

Gleditsia triacanthos 'inermis'- Honeylocust, approved cultivars only 'Shademaster'

'Skyline'

Liquidambar styraciflua 'Rotundiloba' – Seedless Sweetgum

Nyssa sylvatica – Black Gum, disease resistant cultivars only

*Platanus x acerifolia* – London Plane

'Columbia'

'Bloodgood'

Quercus acutissima – Sawtooth Oak

Quercus alba -White oak

Quercus bicolor - Swamp White Oak

Quercus nuttallii – Nuttall Oak

Quercus phellos – Willow Oak

Quercus schumardii – Schumard Oak

*Ulmus parvifolia* – Chinese Elm, approved cultivars only

'Allée'

'Athena'

'Bosque'

Zelkova serrata - Japanese Zelkova, approved cultivars only. (This species may only be planted where the width of the tree lawn is a minimum 12 feet.)

'Village Green'

'Green Vase'

'Spring Grove'

#### B. Broadleaf Evergreen or Semi-Evergreen Species

*Ilex opaca* – American Holly

*Ilex* x *attenuata* 'East Palatka' – East Palatka Holly

Quercus hemisphaerica 'Darlington' – Darlington Oak

Class II – Species suitable for parkways five foot wide or greater with no high voltage overhead obstructions within a twenty-five foot radius of the planting location (i.e. primary distribution utility conductors, crowns of adjacent trees, building awnings, etc.); medium sized shade trees (typically decurrent in form) growing less than 50 feet in height at maturity.

#### A. <u>Deciduous Species</u>

Koelreuteria paniculata – Goldenraintree

Koelreuteria bipinnata – Chinese Flametree

Pistacia chinesis - Chinese Pistache

*Prunus* x *yedoensis* – Yoshino Cherry

Ulmus alata - Winged Elm

*Ulmus parvifolia* – Chinese Elm, approved cultivars only. 'Bosque'

#### B. Broadleaf Evergreen or Semi-Evergreen Species

Ilex x attenuata – 'East Palatka' – East Palatka Holly

Class III – Species suitable for parkways four foot or greater in width where overhead obstructions exist within a fifteen-foot radius of the planting location (i.e. utility conductors, crowns of adjacent trees, building awnings, etc.); small ornamental trees growing less than 35 feet in height at maturity.

#### A. <u>Deciduous Species</u>

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Acer buergerianum – Trident Maple
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Acer campestre – Hedge Maple

Acer truncatum – Shantung Maple

*Lagerstroemia indica* – Crape myrtle (including fauriei crosses, approved cultivars only, - typically standard form required)

Malus spp. 'Prairie Fire' - Prairie Fire Crab Apple

Prunus cerasifera – Purple Leaf Plum, approved cultivars only.

<sup>&#</sup>x27;Biloxi'

<sup>&#</sup>x27;Choctaw'

<sup>&#</sup>x27;Miami'

<sup>&#</sup>x27;Muskogee'

<sup>&#</sup>x27;Natchez'

<sup>&#</sup>x27;Tuscarora'

<sup>&#</sup>x27;William Toovey'

<sup>&#</sup>x27;Krauter Vesuvius'

## CITY OF NORFOLK

#### **DIVISION OF PARKS & URBAN FORESTRY**

#### APPROVED SPECIES, CULTIVARS AND VARITIES FOR NEW STREET DEVELOPMENT

Type 1 – Shade Trees – Species suitable for parkways (tree lawn) ten foot wide or greater, except as noted, with no overhead obstructions within a twenty-five foot radius of the planting location (i.e. utility conductors, crowns of adjacent trees, building awnings, etc.); large shade trees growing more than 50 feet in height at maturity.

#### **LARGE DECIDUOUS SHADE TREES**

Betula nigra - River Birch, approved cultivars only (12' minimum tree lawn required)

'Dura-Heat'

'Heritage'

Celtis laevigata - Sugar Hackberry

'Magnifica'

Celtis occidentalis - Common Hackberry

'Prairie Pride'

*Ginkgo biloba* – Ginkgo, Certified <u>male</u> cultivars only, subject to approval by the City Forester

Liquidambar styraciflua 'Rotundiloba' - Seedless Sweetgum

Platanus x acerifolia – London Planetree (12' minimum tree lawn required)

'Columbia'

'Bloodgood'

'Yarwood'

Quercus acutissima – Sawtooth Oak

Quercus alba -White oak

Quercus bicolor - Swamp White Oak

Quercus hemisphaerica 'Darlington' - Darlington Oak

Quercus nuttallii – Nuttall Oak

Quercus phellos – Willow Oak

*Quercus schumardii* – Schumard Oak

*Ulmus alata* – Winged Elm

*Ulmus parvifolia* – Chinese Elm, approved cultivars only

- 'Allée'
- 'Athena'
- 'Bosque'

*Zelkova serrata* - Japanese Zelkova, approved cultivars only. (12' minimum tree lawn require)

- 'Spring Grove'
- 'Village Green'
- 'Green Vase'
- 'Spring Grove'

#### B. <u>BROADLEAF EVERGREEN TREES</u>

*Ilex opaca* – American Holly

*Ilex* x *attenuata* 'East Palatka' – East Palatka Holly

#### C. <u>CONIFEROUS EVERGREEN TREES</u>

*Metasequoia glptostroboides* – Dawn Redwood (**12' minimum tree lawn required**)

TYPE 2 - SMALL SHADE TREES—Species suitable for parkways eight foot wide or greater with no high voltage overhead obstructions within a twenty foot radius of the planting location (i.e. primary distribution utility conductors, crowns of adjacent trees, building awnings, etc.); medium sized shade trees (typically decurrent in form) growing less than 50 feet in height at maturity.

#### A. <u>DECIDUOUS SMALL SHADE TREES</u>

Koelreuteria paniculata – Goldenraintree

Koelreuteria bipinnata – Bougainvillea Goldenraintree

Pistacia chinensis – Chinese Pistache

Prunus x yedoensis – Yoshino Cherry

*Ulmus parvifolia* – Chinese Elm, approved cultivars only. 'Bosque'

Type 3 – Small Ornamental Trees - Species suitable for parkways six foot or greater in width, and/or where overhead obstructions exist within a fifteen-foot radius of the planting location (i.e. utility conductors, crowns of adjacent trees, building awnings, etc.); small ornamental trees growing less than 35 feet in height at maturity.

#### **DECIDUOUS SMALL ORNAMENTAL TREES**

Acer buergerianum – Trident Maple 'Streetwise'

Acer campestre – Hedge Maple 'Evelyn' Queen Elizabeth

Acer truncatum – Shantung Maple

*Lagerstroemia indica* – Crape myrtle (including indica/fauriei hybrids, approved cultivars only, - typically standard tree form required)

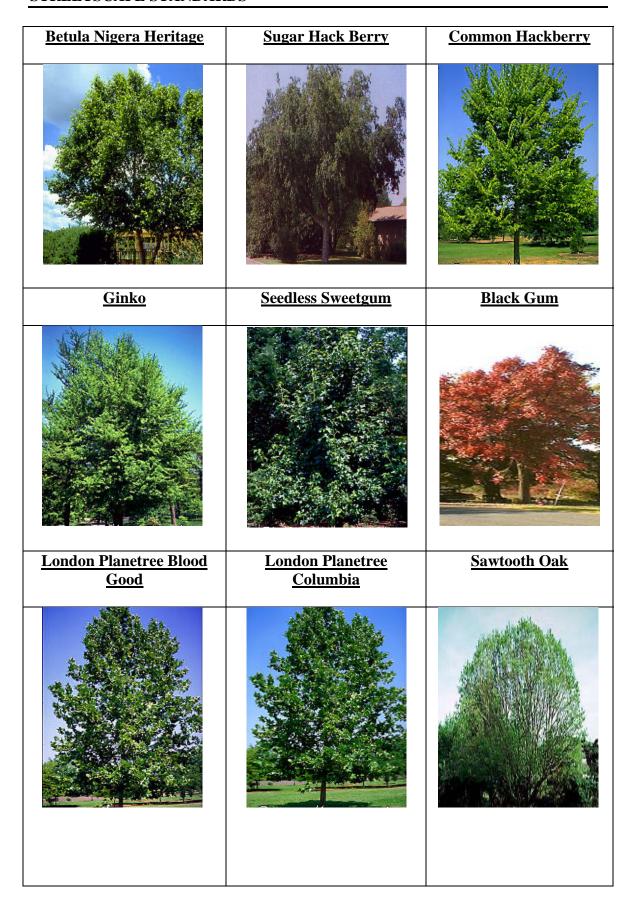
- 'Biloxi'
- 'Choctaw'
- 'Miami'
- 'Muskogee'
- 'Natchez'
- 'Tuscarora'
- 'William Toovey'

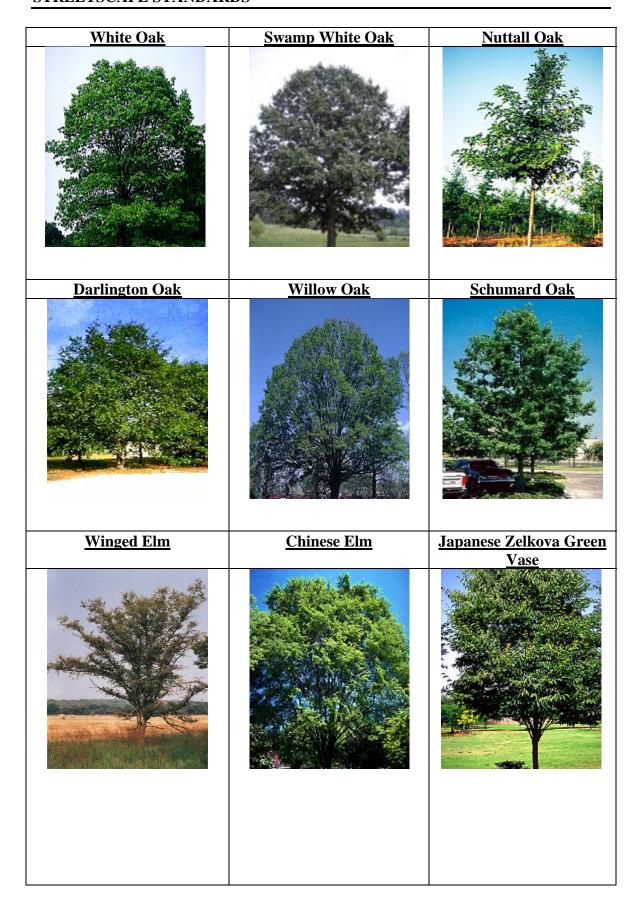
Malus sp.

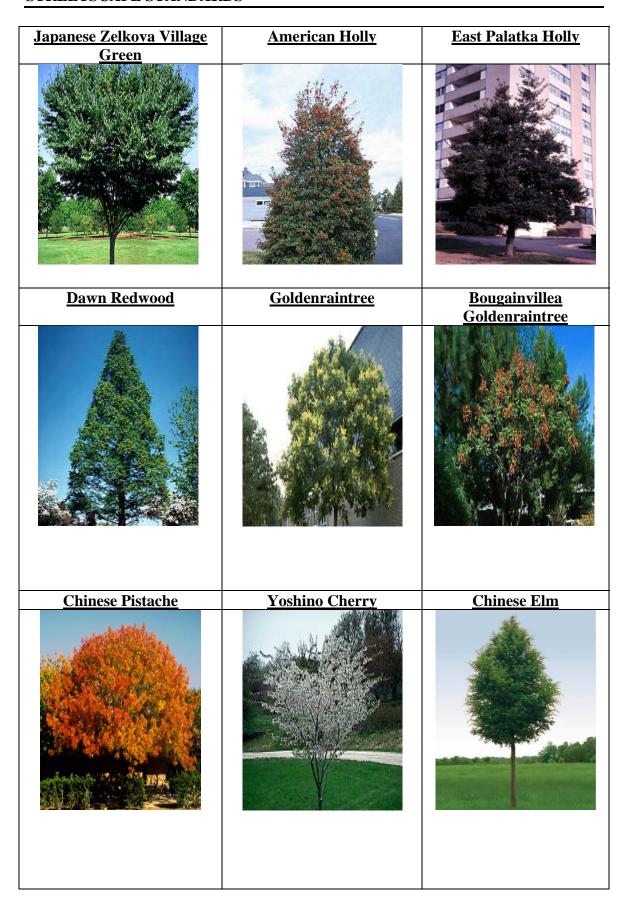
'Prairie Fire' – Prairie Fire Crabapple

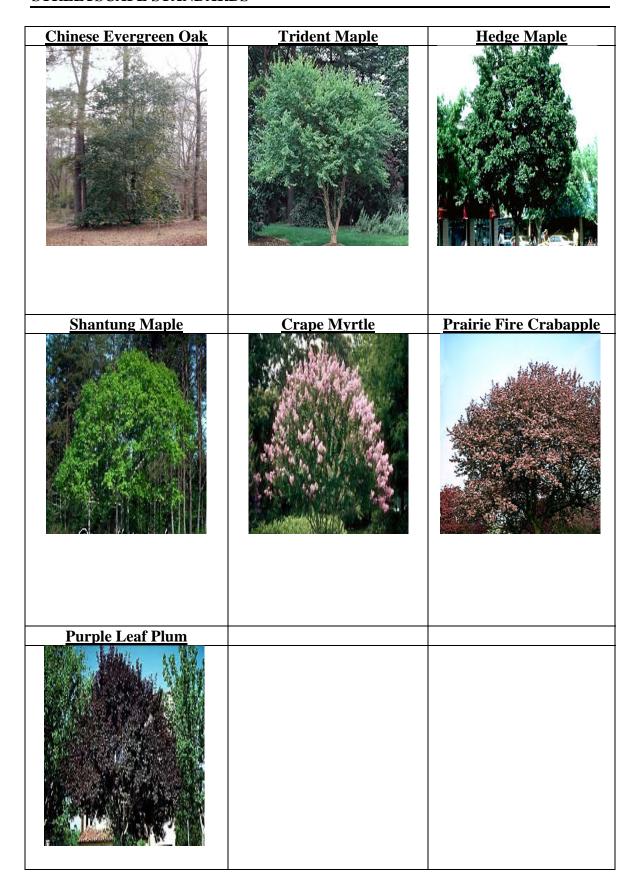
Prunus cerasifera – Purple Leaf Plum, approved cultivars only.

'Krauter Vesuvius'









# APPENDIX D CITY OF NORFOLK POLICY PERTAINING TO CERTAIN TELECOMMUNICATION AND CABLE TELEVISION FACILITIES

**Applicability:** This policy governs the location and installation of all telecommunications, natural gas and cable television facilities including but not limited to pedestals, power supplies, generators, etc. It does not apply to the replacement of existing facilities unless such facilities are enlarged or relocated.

**Purpose:** The anticipated increase in construction /installation of telecommunications and other facilities as the result of industry deregulation has given rise to legitimate aesthetic concerns and concerns about maintaining property values, as well as a need to manage public rights-of-way to avoid conflicts and protect the public safety and welfare.

**Authority:** All franchise agreements allow franchisees to place facilities in the public rights-of-way, but all are subject to the lawful exercise of the City's police powers.

**Standards:** All facilities subject to this policy shall comply with the following standards:

(a) *Location*. In no event shall any such facility be located so as to impede pedestrian or vehicular movement or interfere with sight lines.

In no event shall any such facility be located in the City right-of-way between the curb or edge of pavement and the sidewalk without being underground and flush mounted.

Whenever easements are sought from private property owners for the purpose of installing facilities, the franchisee must advise the private property owner in writing of the following:

- that the private property owner is not obligated to provide an easement; and
- that the terms of any such easement agreement are strictly between the private property owner and the franchisee.
  - 1. Right-of-way adjacent to existing City property such as pump station sites, and school sites or the adjacent City property where no usable City right-of-way exist.
  - 2. Existing utility easements in rear or side yards;
  - 3. Easements obtained from a private property owner in a rear or side yard; and
  - 4. City right-of-way adjoining rear or side lot lines with written concurrence of the immediate adjacent property owners.

#### STREETSCAPE STANDARDS

If the Franchisee can prove hardship and has exercised every reasonable means to obtain the concurrence of the adjacent property owners the Director of Public Works may grant the permit without the concurrence of the adjacent property owners.

- (b) Landscaping. These landscaping requirements apply only to facilities larger than seven and one-half (7.5) cubic feet in size or taller than two (2) feet in height. The utility shall submit a typical landscaping plan designed by a registered landscape architect. This plan shall be approved by the City's Design Review Committee. Individual landscaping designs made by a registered landscape architect shall be submitted for any site where the typical landscape plan is unworkable. The utility shall submit landscape plans for all sites at one time, whenever possible. The proposed landscaping shall not result in plantings that will pose visibility or maintenance liabilities. The landscaping shall be perpetually maintained by the franchisee for as long as the facility exists and in accordance with maintenance management plans submitted by the franchisee and approved by the City as part of the permit application.
- (c) *Maintenance*. The facilities shall be well maintained including horizontal and vertical alignment. Repairs of vandalism or other damage shall be accomplished within 1 week. Graffiti shall be removed within 48 hours. The facilities will be painted every 7 years.
- (d) *Color*. All facilities shall be dark green (Federal Color 14062) to render them as visually unobtrusive as is reasonably possible.
- (e) *Noise*. All facilities shall comply with the City's noise ordinance.

**Permits:** No facilities shall be constructed until all required permits have been obtained. All permit plans must show the location of the equipment and the location of all existing Public Utilities and storm drains. Plans shall show the location of the nearest street and the nearest writing, to remove or relocate at its own expense any structure or installation placed in the right-of-way if such structure or installation interferes with the installation or maintenance of any public facility or use of the right-of-way. Clear zone requirements in accordance with the VDOT Road Design Manual shall apply on all streets where the speed limit is 35 mph or greater. Joint trenching should be used when more than one utility intends to construct new facilities within the same area. Newly installed or upgraded facilities shall be as small and unobtrusive as technology and business conditions allow.

**Removal:** The Franchisee agrees to remove at its own expense all facilities that are no longer used within 60 days of the end or their use. The Director of Public Works may grant an extension to this time period when he believes that circumstances warrant it.

**Application:** Application for permits shall be on forms prescribed by the Public Works Director or his designee. Such application shall also be accompanied by plans showing all information required by the Public Works Director or his designee and such other and

#### STREETSCAPE STANDARDS

further information as the Public Works Director or his designee may require in order to demonstrate compliance with the requirements set forth in this policy. A permit from the City Forester will be required for any work needed to be accomplished within the drip line of any public tree.

**Other:** The requirements of this Policy shall be in addition to, and not in lieu of, the provisions of any other applicable codes, franchise agreements, ordinances, regulations or requirements of federal, state or local law. The Director of Public Works may allow deviations from this policy when in his judgment the specific circumstances warrant such deviations.

**Effective Date:** This policy shall take effect upon execution by the City Manager.

Revised 3/16/06

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